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EXAMINER
LIU, LIN

ART UNIT	PAPER NUMBER
2145	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/796,210	CASSIERS ET AL.
	Examiner	Art Unit	
	LIN LIU	2145	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 April 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3,5-20 and 22-27</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3, 5-20, and 22-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to communications filed on 04/07/2008.

Claims 1-3, 5-20 and 22-27 are pending and have been examined.

Specification

2.   As previously noted to the Applicant, the title of the invention is not descriptive. A

new title is required that is clearly indicative of the invention to which the claims are

directed.

Claim Objections

3.   Claim 22 is objected to because of the following informalities: since claim 21 is

cancelled, claim 22 should be amended to depend on claim 20

      Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention. Applicant has amended claim 1 to include

"wherein said secondary header consists of…", wherein the transitional phrase "consists

of" followed by "comprises" in claims 18 and 19 renders the claims indefinite. Please

see MPEP 2111.03 [R-3] Transitional Phrases.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-3, 5-9, 18, 19 and 24-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Bornemisza et al. (USPAT: US 7,154,895 B1)** in view of **Knight et**

al. (PGPUB: US 2002/0176424 A1).

With respect to **claim 1,** Bornemisza teaches a transmitter unit for transmitting

data via a data link (Bornemisza, fig. 2), said transmitter unit comprising:

a header compression unit adapted for converting a primary header of a data

packet into a corresponding secondary header (Bornemisza, fig. 6a, col. 7, lines 29-65

and, col. 10, lines 35-53, noted the original ATM header is compressed into a

compressed ATM header), with said primary header being related to said secondary

header in one-to-one correspondence (Bornemisza, fig. 5a-5c, and col. 7, lines 29-65);

wherein said secondary header consists of a single byte comprising an entry

number for a header lookup table (Bornemisza: Tables 2& 3, and col. 9 line 55 to col. 10

line 25).

wherein said transmitter unit is adapted for transmitting a modified data packet

via said data link, said modified data packet comprising said corresponding secondary

header (Bornemisza, fig. 2, col. 9, lines 55-67, and col. 10, lines 35-61), and having a fixed packet size (Bornemisza: col. 8, lines 31-40).

However, Bornemisza does not explicitly teach a method of copying an unmodified Payload Type Identifier from the primary header.

In the same field of endeavor, Knight teaches a method of copying an unmodified Payload Type Identifier from the primary header (Knight: page 3, paragraph 38, noted that when the cell header is modified and copied, the PTI field is unchanged.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of copying an unmodified Payload Type Identifier from the primary header as taught by Knight in Bornemisza's invention in order to save the computing resource for other tasks and creating a resource efficient system.

With respect to **claim 2,** Bornemisza teaches the transmitter unit of claim 1, wherein said data packet is an ATM cell, and wherein said primary header is an ATM header (Bornemisza, fig. 5a-5c, and col. 10, lines 50-53).

With respect to **claim 3,** Bornemisza teaches the transmitter unit of claim 1, wherein said data link is part of an access network, in particular of an xDSL network (Bornemisza, title, abstract and, col. 10, lines 26-35).

With respect to **claim 5,** Bornemisza teaches the transmitter unit of claim 1, wherein the size of said secondary header is substantially smaller than the size of said primary header (Bornemisza, fig. 5A-5C, col. 5, lines 43-50, and col. 7, lines 29-60).

With respect to **claim 6,** Bornemisza teaches the transmitter unit of claim 1,

wherein said header compression unit is adapted for converting said primary header in

real-time (Bornemisza, fig. 6A-6B, and col. 10, lines 26-54).

With respect to **claim 7,** Bornemisza teaches the transmitter unit of claim 1,

wherein said header compression unit is adapted for removing redundancy check bits

that are part of said primary header (Bornemisza, fig. 6A, and col. 5, line 43 to col. 6,

line 30).

With respect to **claim 8,** Bornemisza teaches the transmitter unit of claim 1,

wherein said header compression unit is adapted for copying a predefined part of a bit

sequence for said primary headers to said corresponding secondary header without any

modification (Bornemisza, fig. 5A-5B, col. 7, lines 29-65).

With respect to **claim 9,** Bornemisza teaches he transmitter unit of claim 1,

wherein said header compression unit is adapted for assigning, whenever a previously

unknown primary header is encountered for the first time, a secondary header to said

primary header (Bornemisza, fig. 6A-6B, col. 10, lines 26-53).

With respect to **claim 18,** Bornemisza teaches the transmitter unit of claim 1,

wherein said secondary header comprises extra bits that are used for transmitting

control information (Bornemisza, col. 9, table 3, and col. 10, lines 19-25).

With respect to **claim 19,** Bornemisza teaches the transmitter unit of claim 1,

wherein said secondary header comprises extra bits for accommodating count values

required for transmitting said modified data packet in an inverse multiplexing mode

(Bornemisza, col. 9, table 3, and col. 10, lines 19-25).

In regard to **claim 24,** the limitations of this claim are substantially the same as those in claim 1. Therefore the same rationale for rejecting claim 1 is used to reject claim 24. By this rationale **claim 24** is rejected.

In regard to **claim 25,** the limitations of this claim are substantially the same as those in claim 7. Therefore the same rationale for rejecting claim 7 is used to reject claim 25. By this rationale **claim 25** is rejected.

In regard to **claim 26,** the limitations of this claim are substantially the same as those in claim 8. Therefore the same rationale for rejecting claim 8 is used to reject claim 26. By this rationale **claim 26** is rejected.

8.   Claims 1, 5, 10-17, 20, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Agarwal (USPAT: US 6,963,570 B1)** in view of **Knight et al. (PGPUB: US 2002/0176424 A1).**

With respect to **claim 1,** Agarwal teaches a transmitter unit for transmitting data via a data link (Agarwal, fig. 2A), said transmitter unit comprising:

a header compression unit adapted for converting a primary header of a data packet to be transmitted into a corresponding secondary header (Agarwal, fig. 5A-5B, col. 11, lines 26-60), with said primary header being related to said secondary header in one-to-one correspondence (Agarwal, fig. 5A-5B, col. 11, lines 26-60);

wherein said secondary header consists of a single byte comprising an entry number for a header lookup table (Agarwal: col. 12, lines 3-25);

wherein said transmitter unit is adapted for transmitting a modified data packet

via said data link, said modified data packet comprising said corresponding secondary

header (Agarwal, fig. 2A, 5A-5B, col. 7, lines, 19-64 and col. 11, lines 26-60) and having

a fixed packet size (Agarwal: fig. 5, col. 11, lines 26-40, noted the 4-octet header is

compressed into 2-octet header).

However, Agarwal does not explicitly teach a method of copying an unmodified

Payload Type Identifier from the primary header.

In the same field of endeavor, Knight teaches a method of copying an unmodified

Payload Type Identifier from the primary header (Knight: page 3, paragraph 38, noted

that when the cell header is modified and copied, the PTI field is unchanged.).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to incorporate the method of copying an unmodified Payload

Type Identifier from the primary header as taught by Knight in Agarwal's invention in

order to save the computing resource for other tasks and creating a resource efficient

system.

With respect to **claim 5,** Agarwal teaches the transmitter unit of claim 1, wherein

the size of said secondary header is substantially smaller than the size of said primary

header (Agarwal, fig., col. 11 lines 25-40).

With respect to **claim 10,** Agarwal teaches the transmitter unit of claim 1,

wherein said header compression unit comprises at least one lookup table (Agarwal, fig.

6A and fig. 8A), with said lookup table being accessed for converting said primary

header, or a part thereof, into said corresponding secondary header, or a part thereof (Agarwal, fig. 6A and fig. 8A, col. 11, lines 42-61).

With respect to **claim 11,** Agarwal teaches the transmitter unit of claim 10, wherein said header compression unit is adapted for creating, whenever said secondary header is assigned to a previously unknown primary header, a corresponding entry in said lookup table (Agarwal, fig. 6A, col. 11, line 42 to col. 12, line 25).

With respect to **claim 12,** Agarwal teaches the transmitter unit of claim 10, wherein an entry of said lookup table comprises header information for relating said primary header, or a part thereof, to said corresponding secondary header, or a part thereof (Agarwal, fig. 6A,8A, col. 11, lines 42-60 and col. 12, line 61 to col. 13 line 2).

With respect to **claim 13,** Agarwal teaches the transmitter unit of claim 10, wherein an entry of said lookup table comprises said primary header, or a part thereof, whereby said corresponding secondary header, or a part thereof, is represented by the respective entry number (Agarwal, fig. 6A,8A, col. 11, lines 42-60 and col. 12, line 61 to col. 13 line 2).

With respect to **claim 14,** Agarwal teaches the transmitter unit of claim 10, wherein said header compression unit is adapted for searching said lookup table for an entry that matches with said primary header of said data packet to be transmitted, or with a part thereof, and for fetching, in case of a match, said corresponding secondary header, or a part thereof (Agarwal, col. 12, lines 4-25, col. 13, lines 4-19).

With respect to **claim 15,** Agarwal teaches the transmitter unit of claim 1, wherein said transmitter unit is adapted for transmitting update information packets via

said data link, with said update information packets comprising update information for
updating at least one lookup table on the part of a receiver unit (Agarwal, fig. 10A-10B,
col. 14, lines 38-63).

With respect to **claim 16,** Agarwal teaches the transmitter unit of claim 15,
wherein each time a new entry in said at least one lookup table is created, an update
information packet comprising header information of said entry is transmitted (Agarwal,
fig. 10A-10B, col. 14, lines 38-63).

With respect to **claim 17,** Agarwal teaches the transmitter unit of claim 15,
wherein said update information comprises one or more secondary headers, or parts
thereof, and for each of said secondary headers, a corresponding primary header said
secondary header has been assigned to, or parts thereof.

With respect to **claim 20,** Agarwal teaches a receiver unit for receiving data
transmitted via a data link (Agarwal, fig. 7, col. 12, lines 36-52, receiver interface), said
receiver unit comprising:

a header decompression unit adapted for converting a secondary header of a
modified data packet received via said data link into a corresponding primary header
(Agarwal, fig. 7, lines 36-60), with said secondary header being related to said primary
header in one-to-one correspondence (Agarwal, fig. 4-5, col. 10, lines 51-64, and col.
11, lines 26-40);

wherein said secondary header consists of a single byte comprising an entry
number for a header lookup table (Agarwal: col. 11 line 42 to col. 12, line 25);

wherein said modified data packet has a fixed packet size (Agarwal: fig. 5, col. 11, lines 26-40, noted the 4-octet header is compressed into 2-octet header).

In the same field of endeavor, Knight teaches a method of copying an unmodified Payload Type Identifier from the primary header (Knight: page 3, paragraph 38, noted that when the cell header is modified and copied, the PTI field is unchanged.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of copying an unmodified Payload Type Identifier from the primary header as taught by Knight in Agarwal's invention in order to save the computing resource for other tasks and creating a resource efficient system.

In regard to **claim 24,** the limitations of this claim are substantially the same as those in claim 1. Therefore the same rationale for rejecting claim 1 is used to reject claim 24. By this rationale **claim 24** is rejected.

9.   In regard to **claim 27,** the limitations of this claim are substantially the same as those in claim 20. Therefore the same rationale for rejecting claim 20 is used to reject claim 27. By this rationale **claim 27** is rejected.

10.   Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Agarwal (USPAT: US 6,963,570 B1)** in view of **Knight et al. (PGPUB: US 2002/0176424 A1)** and further in view of **Rosengard (USPAT: US 6,760,345 B1).**

With respect to **claim 22,** the combined method of Agarwal-Knight teaches all the claimed limitations, except that they do not explicitly teach a method of performing a cell delineation by counting the bytes received by said receiver unit.

In the same field of endeavor, Rosengard teaches a method of performing cell delineation by counting the bytes received by said receiver unit (Rosengard, col. 10, lines 5-21, and col. 12, lines 9-40).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of performing cell delineation by counting the bytes received by said receiver unit as taught by Rosengard in Agarwal-Knight's invention in order to efficiently reconstruct the compressed header (Rosengard, col. 12, lines 9-24).

In regard to **claim 23,** the limitations of this claim are substantially the same as those in claim 22. Therefore the same rationale for rejecting claim 22 is used to reject claim 23. By this rationale **claim 23** is rejected.

Response to Arguments

11.   Applicant's arguments with respect to claims 1-3, 5-20 and 22-27 have been considered but are moot in view of the new ground(s) of rejection.

12.   Applicant's arguments filed on 04/07/2008 with respect to Bornemisza's rejection have been fully considered but they are not persuasive.

13.   On pages 10-11 of Applicant's remark, Applicant argues "the compressed data packets of Bornemisza do **not** have a fixed packet size." The examiner respectfully

disagrees. It appears that the Applicant is misinterpreting the prior art of record by only

citing a portion of the reference (Bornemisza: col. 8, lines 27-30). When reviewing a

reference the applicants should remember that not only a specific portion of a reference

but viewing *entire the reference as whole*. In the instant case, Bornemisza also teaches

that the ATM header is fixed size (Bornemisza: col. 8, lines 31-40, noted that *the*

expected header length in many ATM network is one byte).

Conclusion

14.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

15.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

- Uchida (patent no.: US 5,930,477) discloses a method for ATM header

  conversion.

16.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lin Liu whose telephone number is (571) 270-1447.

The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. L./

/Lin Liu/

Examiner, Art Unit 2145

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145